

*Low water in July on Tennessee and lower Arkansas Rivers—1925 compared with previous record*

Station	River	July, 1925, low-water record		Previous July low-water record	
		Stage	Date	Stage	Date
Knorrville, Tenn.....	Tennessee	-0.8	31	-0.5	1911
Loudon, Tenn.....	do	0.4	30-31	-0.5	1914
Rockwood, Tenn.....	do	2.5	31	4.2	1923
Chattanooga, Tenn. (pool stage, 6 feet).....	do	6.9	25	0.8	1879
Hales Bar, Guild, Tenn., above dam (pool stage 37.5 feet).....	do	39.0	25	6.9	1913
Hales Bar, Guild, Tenn., below dam.....	do	0.6	26	1.7	1914
Bridgeport, Ala. (pool stage 0.6 foot).....	do	-0.2	26	0.1	1899 1914
Guntersville, Ala.....	do	0.6	28	4.2	1906
Decatur, Ala.....	do	0.2	31	0.2	1878
Upper Muscle Shoals, Ala.....	do	1.6	29-31	0.7	1899
Florence, Ala.....	do	-1.2	31	-0.7	1898
Riverton, Ala.....	do	6.8	31	7.4	1899
Savannah, Tenn.....	do	0.5	26	5.1	1922
Johnsonville, Tenn.....	do	0.7	8-9	0.5	1879 1914
Little Rock, Ark.....	Arkansas	-1.8	19	-1.6	1918
Pine Bluff, Ark.....	do	1.9	17-18	2.3	1918

<sup>1</sup> And subsequent dates.

**Floods.**—While heavy and widely scattered local rainfall continued, as in June, to cause floods of minor destructiveness in creeks and small streams, the only rise of consequence in an important river was that following the 21st of July in the Purgatoire of Colorado. This flood, resulting from heavy rain in the upper reaches of the river, did damage estimated at \$43,400, of which \$3,000 was in crops. No damage was reported from other floods in the Southwest.

The annual rise in the Columbia River finally subsided in early July. Owing to high temperature in April the rise began unusually early this year, but it was temporarily retarded before making important headway by a period of cold lasting about 10 days in the latter part of the month. During this period stages at several stations fell practically to the starting point; but beginning late in April and continuing for most of the next month the weather was again warm, with the result that the rise was steady and crests reached at all stations on the river in the last decade of May. The slight secondary rise which occurred in the latter part of June was without importance.

Columbia River water backing into the channel of the Willamette kept the latter above flood stage at Portland, Ore., from April 20 to 24 and again from May 15 to July 6.

As to warnings for and damage by the flood, the official in charge of the Weather Bureau office at Portland, Ore., reports as follows:

During the rise warnings were issued from day to day, giving advice as to stages that might be expected from three days to a week in advance, and so far as is known all movable property was saved in Portland and such movable property as was lost in other sections was mostly because of breaking of dikes, etc., and not because of lack of warnings. Losses reported to this office were as follows:

Tangible property.....	\$18, 525
Matured crops (mostly pasture).....	9, 700
Prospective crops.....	44, 540
Movable property.....	17, 595
Suspension of business, etc.....	6, 050
Miscellaneous.....	225
<b>Total.....</b>	<b>96, 635</b>

This office has statistics of property saved by the flood warnings amounting to \$170,500, and it is known that the actual amount saved is much greater than this, for many patrons report that they saved entire stocks of goods without giving the value of the stocks.

On May 27, 1925, the new channel of the Arkansas River through the city of Pueblo, Colo., was opened. This channel, whose purpose is primarily to prevent future damaging overflow in the city, is roughly 3 miles long with a fall of 12 feet per mile, is adequately banked on the south by a natural 60 to 80 foot bluff and on the north by a 32-foot levee, and will accommodate at its narrowest point a discharge of 125,000 cubic feet of water per second—practically three times the capacity of the old channel.

For regulation of flow in the new channel and as a further measure for flood protection for the city, a barrier known as the Rock Creek Barrier is being constructed in the Arkansas channel, at right angles to its direction, 6½ miles above Pueblo. The combined length of this barrier and a 50-foot earth embankment of which it will be virtually a continuation, will be 3,000 feet. Openings will provide for a maximum flow through the completed structure of 100,000 cubic feet per second, as follows: 80,000 by the natural channel, 14,000 at the Denver & Rio Grande Western Railroad tracks, and 6,000 at the Bessemer ditch.

River and station	Flood stage	Above flood stages—dates		Crest	
		From—	To—	Stage	Date
<i>Mississippi drainage</i>					
Arkansas: Fort Lyon, Colo.-----	<i>Feet</i> 6	21	24	<i>Feet</i> 7.3	23
Purgatoire: Trinidad, Colo.-----	10	22	22	13.3	22
Higbee, Colo.-----	4.5	21	23	5.6	26
Canadian: Logan, N. Mex.-----	4	22	29	10.0	27
<i>West Gulf drainage</i>					
Pecos: Fort Sumner, N. Mex.-----	7	23	-----	8.0	23
<i>Pacific drainage</i>					
Colorado: Parker, Ariz.-----	7	(?)	5	7.6	June 28-30
Columbia: Marcus, Wash.-----	24	(?)	16	30.4	May 26
Willamette: Portland, Oreg.-----	15	(?)	5	21.7	May 26

<sup>1</sup> Date uncertain.

<sup>2</sup> Continued from last month.

### MEAN LAKE LEVELS DURING JULY, 1925

BY UNITED STATES LAKE SURVEY

[Detroit, Mich., Aug. 5, 1925]

The following data are reported in the "Notice to Mariners" of the above date:

Data	Lakes <sup>1</sup>			
	Superior	Michigan and Huron	Erie	Ontario
Mean level during July, 1925:				
Above mean sea level at New York.....	Feet 601.39	Feet 578.52	Feet 571.11	Feet 245.21
Above or below—				
Mean stage of June, 1925.....	+0.17	+0.08	-0.08	-0.21
Mean stage of July, 1924.....	+0.07	-1.01	-1.33	-1.00
Average stage for July last 10 years.....	-1.03	-2.27	-1.67	-1.40
Highest recorded July stage.....	-2.43	-5.06	-3.30	-3.51
Lowest recorded July stage.....	+0.07	-1.01	-0.35	+0.62
Average departure (since 1860) of July level from June level.....	+0.21	+0.06	-0.03	-0.02

<sup>1</sup> Lake St. Clair's level: In July, 1925, 573.81 feet.